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Boosting the Attractiveness of the European Union to International Investment in R&D Activities: What Matters?¹

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In response to intensified global competition, technological change and the availability and costs of skills, enterprises are increasingly integrating their R&D and innovation activities into global production and innovation networks. Multinational enterprises are the main drivers of this growing internationalisation of R&D and the emergence of global innovation networks.

Understanding what determines the location choice of R&D activities by multinationals is key to informed policies aimed at attracting foreign investment in R&D. Most existing econometric studies identify determinants of the location choice of foreign direct investment in R&D in a single country modelling set up. Given that multinationals consider alternative locations in several countries and regions, this empirical approach is limited by the omission from the analysis of those relevant alternative locations.

In a recent published research paper² we go beyond this modelling limitation. Specifically, we construct a multi-country, multi-region modelling set up to identify factors that matter for the attractiveness of European Union's regions to foreign investment in R&D. Considering regions as location alternatives is more realistic, as multinationals consider locations within countries. Finally, correlations among location alternatives due to unobserved location-specific

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² Iulia Siedschlag, Donal Smith, Camelia Turcu, Xiaoheng Zhang, "What Determines the Location Choice of R&D Activities by Multinational Firms?", *Research Policy* 42(8): 1420-1430. <http://dx.doi.org/10.1016/j.respol.2013.06.003>

characteristics are accounted for. These methodological improvements lead to more accurate estimates of the determinants of the location choice of R&D activities by multinational enterprises.

The research results indicate that, on average, the probability to locate in a region increased with proximity to other foreign R&D activities, and the region's knowledge base measured by the availability of high skills, proximity to centres of research excellence and the region's research and innovation capacity.

Further, the evidence indicates that the determinants of the location choice of R&D activities by multinationals vary depending on the country of origin of the foreign investor. While government R&D expenditure intensity increased the probability of location of R&D activities by European-based multinationals, it had no significant effect on the location of R&D activities by North American-based multinational firms. In comparison to European-based multinationals, the effects of patents intensity and proximity to centres of research excellence were stronger in the case of North American-based multinational firms.

These results suggest that boosting inward international investment in R&D requires a combination of innovation and investment promotion policies. First, to increase the attractiveness of regions to foreign R&D investment, policy measures should focus on enhancing the knowledge base of locations. In this respect, the availability of high skills, centres of research excellence and innovation capacity are particularly important to attract international investment in R&D. Second, clustering R&D activities by foreign affiliates are likely to generate positive knowledge spillovers that outweigh competition effects. Third, given the heterogeneous behaviour of foreign investors, investment promotion policy targeted on specific partner countries can increase the success of such policies.

These policy implications are relevant for Ireland, given the importance attached to attracting international investment in R&D. As highlighted in the latest OECD Economic Survey of Ireland³, Ireland's investment intensity in knowledge-based capital, and its innovation capacity are weaker than in other small advanced economies such as Austria, Belgium, Denmark, Finland, Sweden and Switzerland.

³ OECD Economic Surveys: Ireland 2013, OCED Publishing, Paris. http://dx.doi.org/10.1787/eco_surveys-irl-2013-en